DIVISION 300 BASES AND GRANULAR SURFACES

SECTION 301
LIME TREATED SUBGRADE

301.01 GENERAL (a) Control of Materials. As with all materials incorporated into a project, the Resident Engineer is responsible for obtaining applicable certifications and Contractor test results for this item. Samples of soil and lime must be submitted to the Materials Division 30 days (minimum) prior to beginning the work so they may determine and specify the exact percentage of lime to be used. Additional information on frequency and testing of materials is found in the *Manual of Field Sampling and Testing Procedures*.

A sample of the water should be submitted to the Materials Division for testing if the water is not from a public water supply.

If a certification stating that the lime to be used conforms to AASHTO M 216 does not accompany its shipment or if the producer is not shown on the QPL, the lime must be tested and approved prior to use.

(b) Quality Control and Acceptance. The Contractor is responsible for determining the maximum laboratory density, the optimum moisture content, the in-place density and in-place moisture content. Information on frequencies and testing procedures are contained in the *Manual of Field Sampling and Testing Procedures* and in Subsection 301.07 of the Standard Specifications.

The Department will perform verification testing at the minimum frequency shown in the *Manual of Field Sampling and Testing Procedures*. Refer to *Sections 106 and 210.01(a)* of this Manual for additional information on acceptance and verification testing.

(c) Soundings. The Resident Engineer will take soundings of the compacted material as part of the inspection process. As a minimum, soundings shall be taken at the rate specified in the *Manual of Field Sampling and Testing Procedures*. The soundings are to be recorded and retained in the Resident Engineer's project files.

(d) Verification of Line and Grade. The responsibility for computation of planned grades and setting sufficient stakes to provide control of the work is the same as described in *Subsection 210.01(b)* of this Manual. In addition, it is the responsibility of the Resident Engineer to check the finished subgrade to verify compliance with the lines and grades staked. This is normally accomplished by "stringlining" the completed subgrade.

(e) Seasonal and Temperature Limitations. The minimum temperature for application of lime is 50°F (10°C). Application of lime must cease by a date in October that will give reasonable assurance that the entire operation will be complete by October 31. Operations shall not commence prior to April 1.

301.02 METHOD OF MEASUREMENT. This work includes the pay items: "Processing Lime Treated Subgrade" and one of the following pay items: "Quicklime (slurry) in Treated Subgrade", "Quicklime (dry) in Treated Subgrade", or "Hydrated Lime in Treated Subgrade". If DWR Templates have been activated on a project then the template shall be used, in lieu of any paper forms, to document the measurements. If DWR templates have not be activated on a project, Form 19-162 (19-162 m), "Daily Soil Cement/Lime Base Report" shall be used to document the measurements. (See *Appendix III*.) OTTRS (Refer to *Subsection 109.01(c)* of this Manual.) may be used to document the weight of lime (OTTRS shall be used to document weights when DWR Templates have been activated on a project) in lieu of using the top portion of Form 19-162 or 19-162m (the blanks for truck number, gross, tare, and net weights). Forms 19-162 and 19-162m (metric) are available on the Construction drive of the LAN (\\csd4\construc\forms\f19_162.dot and f19_162m.dot).

(a) Processing Lime Treated Subgrade. This item is measured by the Square Yard (Square Meter). If DWR Templates have been activated on a project then the template shall be used, in lieu of any paper forms, to document the measurements. Otherwise measurements (and computations) shall be entered on or attached to Form 19-162 (for metric projects, Form 19-162m).

(b) Lime. Lime is paid for by the ton (metric ton), weighed in trucks. The weights are to be recorded either on Form 19-162 (19-162m) or in OTTRS. OTTRS shall be used to record weights when DWR Templates have been activated on a project.

301.03 DOCUMENTATION. The completed Form(s) 19-162 (19-162m), "Daily Soil Cement/Lime Base Report" and OTTRS report shall be used as Original Source Document(s) for pay items applicable to this Specification. (Refer to *Appendix III* and *Section 109* of this Manual.) If DWR Templates have been activated on a project, then Form(s) 19-162 (19-162m) are not required for documentation, however the OTTRS report is still required. No further documentation is necessary for payment on Current and Final Estimates.

NOTE: Weight Tickets should be retained in the RE Office as Original Source Documents, also.

Scale calibration certificates and weight tickets shall be handled in accordance with *Section 109* of this Manual.

SECTION 302
SELECTED MATERIAL

302.01 GENERAL (a) Control of Materials. The Resident Engineer is responsible for obtaining and reviewing Contractor test results for this item. Materials which do not comply with the Specifications are to be removed or corrected to meet Specifications at the Contractor's expense unless accepted by Change Order at a reduced price. Additional information on frequency and testing of materials is found in the *Manual of Field Sampling and Testing Procedures*.

(b) Quality Control and Acceptance. The Resident Engineer will sample and test the Selected Material to determine the maximum laboratory density, and optimum moisture content. This information will then be provided to the Contractor for use in their acceptance testing. The Contractor will perform quality control and acceptance sampling in accordance with Section 306 of the Standard Specifications. Additional information on the frequency and testing procedures is found in Section 306 of the Standard Specifications and in the *Manual of Field Sampling and Testing Procedures*.

Verification testing will be conducted by the Department at the minimum frequencies shown in the *Manual of Field Sampling and Testing Procedures*. See *Subsection 106.04* of this Manual for additional information on verification testing.

(c) Verification of Line and Grade. The responsibility for computation of planned grades and setting sufficient stakes to provide control of the work is the same as described in *Subsection 210.01(b)* of this Manual. In addition, it is the responsibility of the Resident Engineer to check the finished subgrade to verify compliance with the lines and grades staked. This is normally accomplished by "stringlining" and/or "blue-topping" the completed work.

302.02 METHOD OF MEASUREMENT. Selected material is measured and paid for either by the cubic yard (cubic meter) in trucks or by the ton (metric ton). *Section 109* of this Manual describes the procedures to be followed for both types of measurement. Scale calibration certificates and weight tickets (and documentation of conversion between cubic yard. and tons [cubic meter and metric ton], if used) shall be handled in accordance with *Section 109* of this Manual.

302.03 DOCUMENTATION. (a) For Selected Material measured by the Cubic Yard (Cubic Meter), If DWR Templates have been activated on a project the template must be used, in lieu of any paper forms, to document the measurements. If DWR templates have not be activated on a project, Form 19-165 (19-165m), "Daily Report of Volumetric Hauling" shall be used as the Original Source Document(s) for "Selected Material (Class SM ___)". The volume of each vehicle used is to be computed and reported on Form 19-507 (19-507m), "Truck Measurement Form" and submitted with the first applicable Daily Report. (Refer to *Appendix III* and *Subsections 109.10 and 109.11* of this Manual.) No further documentation is necessary for payment on Current and Final Estimates.

(b) For Selected Material measured by the Ton (Metric Ton). When paid by the Ton (Metric Ton) Source Documents for Selected Material are the Weight Tickets provided by the Contractor on the job site. These are entered into OTTRS and retained in the RE Office. OTTRS daily reports shall be submitted as Original Source Document(s) for "Selected Material (Class SM___)" for checking purposes. Refer to *Subsection 109.01(c)* of this Manual. No further documentation is necessary for payment on Estimates.

On projects with a very small amount of Selected Material, Form 19-213 (19-213m) "Daily Report of _____ Operations, Roadway Inspector's Record," may be utilized if the Resident Engineer feels the total quantity for the project does not justify setting up the computer file and generating the computerized version. If DWR Templates have been

activated on a project the template must be used, in lieu of Form 19-213 (19-213m), to document the measurements.

SECTION 303
AGGREGATE BASE COURSE

303.01 GENERAL. (a) Control of Materials. The Resident Engineer is responsible for obtaining and reviewing Contractor test results for this item. Materials which do not comply with the Specifications are to be removed or corrected to meet Specifications at the Contractor's expense. Blending on the roadway is prohibited by the Specifications. Blending at the source requires the use of mechanical feeders. Additional information on frequency and testing of materials is found in the *Manual of Field Sampling and Testing Procedures*.

NOTE: Steel slag is allowed for Classes 1 & 2 Aggregate Base Course.

(b) Quality Control and Acceptance. Quality control and acceptance sampling and testing are performed by the Contractor in accordance with Section 306 of the Standard Specifications. Additional information on the frequency and testing procedures is found in *Section 306* of this Manual and in the *Manual of Field Sampling and Testing Procedures*.

As a minimum, verification testing will be conducted by the Department at the frequencies shown in the *Manual of Field Sampling and Testing Procedures*. See *Subsection 106.04* of this Manual for additional information on verification testing.

NOTE: If the specified compacted base course exceeds 6" (150 mm), the Contractor is required to construct the base in two or more layers of approximately equal thickness, unless vibrating or other types of special compacting equipment are used. In these situations the Resident Engineer may increase the layer thickness up to 8" (200 mm) if acceptable compaction and consolidation is achieved.

(c) Verification of Line and Grade. The responsibility for computation of planned grades and setting sufficient stakes to provide control of the work is the same as described in *Subsection 210.01(b)* of this Manual. In addition, it is the responsibility of the Resident Engineer to check the finished subgrade to verify compliance with the lines and grades staked. This is normally accomplished by "stringlining" and/or "blue-topping" the completed work.

303.02 METHOD OF MEASUREMENT. Aggregate Base Course is measured and paid for either by the Cubic Yard (Cubic Meter) in trucks or by the Ton (Metric Ton). *Section 109* of this Manual describes the procedures to be followed for both types of measurement. Scale calibration certificates and weight tickets (and documentation of conversion between cubic yards. and tons [cubic meter and metric tons], if used) shall be handled in accordance with *Section 109* of this Manual.

NOTE: If the Specific Gravity of the Aggregate Base is greater than 2.8, the amount of pay is reduced by the ratio of 2.8 and that Specific Gravity.

303.03 DOCUMENTATION. (a) Measurement by the Cubic Yard (**Cubic Meter).** If DWR Templates have been activated on a project the template shall be used, in lieu of any paper forms, to document the measurements. If DWR templates have not be activated on a project, completed Form(s) 19-165 (19-165m), "Daily Report of Volumetric Hauling" shall be used as Original Source Document(s) for "Aggregate Base Course (Class ___)". The volume of each vehicle used is to be computed and reported on Form 19-507 (19-507m), "Truck Measurement Form" and submitted with the first applicable Daily Report. (Refer to *Appendix III* and *Subsections 109.10 and 109.11* of this Manual.) No further documentation is necessary for payment on Current and Final Estimates.

(b) Measurement by the Ton (Metric Ton). When paid by the Ton (Metric Ton) Original Source Documents for Aggregate Base Course are the Weight Tickets provided by the Contractor on the job site. Tickets are entered into OTTRS and retained in the RE Office. The OTTRS reports shall be used as Original Source Document(s) for "Aggregate Base Course (Class ___)" for checking purposes. Refer to *Subsection 109.01(c)* of this Manual. No further documentation is necessary for payment on Current and Final Estimates.

NOTE: On projects with a very small amount of "Aggregate Base Course (Class ___), Form 19-213 (19-213 m) "Daily Report of _____ Operations, Roadway Inspector's Record" may be utilized if the Resident Engineer feels the total quantity for the project does not justify setting up the computer file and generating the computerized version. If DWR Templates have been activated on a project the template must be used, in lieu of Form 19-213 (19-213m), to document the measurements.

SECTION 304 - VACANT

SECTION 305
RECONSTRUCTED BASE COURSE

305.01 GENERAL. (a) Control of Materials. This item consists of reshaping and compacting an existing base material to a planned typical section. If existing material is not sufficient to obtain the planned typical section, additional material should be authorized by the Resident Engineer and paid for as Aggregate Base Course (Class __).

(b) Quality Control and Acceptance. The Contractor will perform quality control and acceptance sampling in accordance with Section 306 of the Standard Specifications. Resident Engineer personnel should verify that the lines and grades proposed and/or constructed are acceptable and perform verification testing at the frequency specified by the *Manual of Field Sampling and Testing Procedures*.

NOTE: Soundings are not required on Reconstructed Base Course.

305.02 METHOD OF MEASUREMENT AND DOCUMENTATION. Reconstructed Base Course is measured by the Station (Metric Station) measured along the centerline of the roadway. Roadways in each direction of a divided highway are

measured separately. Additional areas outside the normal roadway will be converted to normal measurements based on the equivalent area. For documentation procedures, see *Section 213* of this Manual. Information contained in *Section 213* also applies to Reconstructed Base Course.

Additional Aggregate Base Course required to construct the plan grade and typical section will be measured and paid for in accordance with *Subsections 303.02 and 303.03* of this Manual.

SECTION 306
QUALITY CONTROL AND ACCEPTANCE

306.01 QUALITY CONTROL. The Department is responsible for providing the maximum laboratory density and optimum moisture content for the aggregate base being used, with the exception of lime treated subgrade. The Contractor is responsible for density, gradation, and plasticity index testing, however there is no required frequency for this testing for quality control purposes. The only tests required to be performed and submitted are those identified as acceptance tests in Subsection 306.03 and the individual sections of the Standard Specifications.

306.02 ACCEPTANCE (a) Testing and Verification. Acceptance tests are to be performed by the Contractor using the procedures and rates specified in Section 306 of the Standard Specifications and the *Manual of Field Sampling and Testing Procedures*. As is the case with earthwork, only Contractor tests are used for acceptance of items in Division 300 (with the exception of Cement Stabilized Crushed Stone Base Course and Portland Cement Concrete Base). Therefore, the Department must make maximum use of verification tests in order to ensure that the test results reported by the Contractor are accurate. See *Subsection 106.04* of this Manual for additional information on verification testing and the *Manual of Field Sampling and Testing Procedures* for specific test procedures and frequencies for verification testing.

Material used in mixes (such as Cement Stabilized Crushed Stone Base Course and Portland Cement Concrete Base) must be sampled from the stockpile, tested, and accepted before being incorporated into the work.

(b) Soundings. If specified on the plans, the Contractor must take thickness measurement (soundings) of the compacted base material as part of the acceptance process. Soundings should be taken at the same rate as the other acceptance tests for the item, with a minimum of one per layer. Soundings should be recorded and submitted with the other acceptance test results for each lot. The Resident Engineer should perform verification testing of the Contractor's sounding results by taking an independent sounding at a rate of one sounding for every 4 contractor soundings.

NOTE: Soundings are not required on Reconstructed Base Course.

SECTION 307
CEMENT TREATED BASE COURSE

307.01 GENERAL. (a) Control of Materials. The Resident Engineer is responsible for obtaining applicable certifications and Contractor test results for this item. Samples of soil aggregate and cement must be submitted to the Materials Division 30 days (minimum) prior to beginning the work for determination of the percentage of cement to be used and the maximum laboratory density.

A sample of the water should be submitted to the Materials Division for testing if the water is not from a public water supply

Certifications for cement from sources listed on the QPL must accompany shipments. If they do not, the cement must be tested and approved by Materials Division prior to use.

NOTE: Fly Ash or ground granulated blast furnace slag may be used as a replacement for up to 25% cement by weight. Refer to the Specifications.

(b) Quality Control and Acceptance. Quality control and acceptance sampling and testing are performed by the Contractor in accordance with Section 306 of the Standard Specifications, with the exception that acceptance testing is based on a lot size of 12,000 square yards (10,000 square meters). Additional information on the frequency and testing procedures is found in the *Manual of Field Sampling and Testing Procedures*.

As a minimum, verification testing will be conducted by the Department at the frequencies shown in the *Manual of Field Sampling and Testing Procedures*. See *Subsection 106.04* of this Manual for additional information on verification testing.

(c) Verification of Line and Grade. The responsibility for computation of planned grades and setting sufficient stakes to provide control of the work is the same as described in *Subsection 210.01(b)* of this Manual. In addition, it is the responsibility of the Resident Engineer to verify compliance with the lines and grades staked. This is normally accomplished by "stringlining" the completed work or using the rolling straightedge. Refer to Subsection 307.04(f) of the Specifications.

(d) Seasonal and Temperature Limitations. The minimum surface temperature for application of Cement Treated Base Course is 40°F (5ºC). Operations shall not commence prior to April 1. Application of cement must cease by a date sufficiently early that will give reasonable assurance that the entire operation and application of subsequent asphalt courses will be complete by:

Asphalt Surface Treatment – Roadway	September 30
Asphalt Surface Treatment – Shoulders	October 31
ACHM Binder Course	October 31
ACHM Surface Course	October 31

307.02 METHOD OF MEASUREMENT. Cement Treated Base Course includes three separate pay items: Cement in Treated Base Course, Soil Aggregate in Cement Treated Base Course (__ Compacted Depth), and Processing Cement Treated Base Course (__ Uniform Thickness). If DWR Templates have been activated on a

project then the template shall be used, in lieu of any paper forms, to document the measurements. If DWR templates have not been activated on a project, Form 19-162 (19-162m), "Daily Soil Cement/Lime Base Report" shall be used to document the measurements. (See *Appendix III*.) OTTRS (Refer to *Subsection 109.01(c)* of this Manual) may be used to document the weight of cement/lime (OTTRS shall be employed to document weights when DWR Templates have been activated on a project) in lieu of using the top portion of Form 19-162 or 19-162m (the blanks for truck number, gross, tare, and net weights).

(a) Cement in Treated Base Course. Cement is paid for by the Ton (Metric Ton), weighed in trucks. The specific details for this measurement are described in *Section 109* of this Manual.

(b) Soil Aggregate in Cement Treated Base Course (___ Compacted Depth). Soil Aggregate is measured by either the Station (Metric Station), Square Yard (Square Meter), Cubic Yard (Cubic Meter), or Ton (Metric Ton). See *Section 109* of this Manual for details of each of these methods.

(c) Processing Cement Treated Base Course (___Uniform Thickness). This item is measured either by the Station (Metric Station) or by the Square Yard (Square Meter). If DWR Templates have been activated on a project then the template shall be used, in lieu of any paper forms, to document the measurements, otherwise the measurements (and computation of area) shall be entered on the Form 19-162 (19-162m).

307.03 DOCUMENTATION. (a) Completed Form(s) 19-162 (19-162m), "Daily Soil Cement/Lime Base Report" shall be used as Original Source Document(s) for "Processing Cement Treated Base Course (___mm [__"] Uniform Thickness)" and "Cement in Treated Base Course". If DWR Templates have been activated on a project then the template shall be used, in lieu of any paper forms, to document the measurements. No further documentation is necessary for payment on Current and Final Estimates on these items.

(b) If "Soil Aggregate in Cement Treated Base Course (___"[__ mm] Compacted Depth)" is measured by the square yard (square meter) or station (metric station), completed Form(s) 19-162 (19-162m), "Daily Soil Cement/Lime Base Report" shall be used as Original Source Document(s). If DWR Templates have been activated on a project, then Form(s) 19-162 (19-162m) are not required for documentation.

If this item is measured by the cubic yard (cubic meter) or ton (metric ton), documentation shall be in the same manner as "Selected Material (Class SM___)" in *Subsection 302.02* of this Manual.

(c) In addition, Form(s) 19-208 (19-208 m), "Daily Report for (Prime, Tack)" is to be completed to document the protective coating of asphalt applied. (Refer to *Appendix III* of this Manual.)

Scale calibration certificates and load tickets shall be handled in accordance with *Section 109* of this Manual.

NOTE: The protective coating of asphalt used on "Cement Treated Base Course" is subsidiary to "Processing Cement Treated Base Course (__ mm [___"] Uniform Thickness)" and must be applied at the rate of 0.1 to 0.3 gallons/sq yd (0.4 to 1.1 L/sq m) and comply with applicable Specifications for the type asphalt used. The Resident Engineer should have sufficient certifications for this material on file to document its compliance with Specifications.

SECTION 308
CEMENT STABILIZED CRUSHED STONE BASE COURSE

308.01 GENERAL. (a) Design. Samples of aggregate and cement must be submitted to the Materials Division 30 days (minimum) prior to beginning work in order to determine the mix cement percentage, the optimum moisture content, and the maximum laboratory density.

NOTE: Any change in aggregate source and/or cement content MUST be documented in writing by an approved laboratory mix design form Materials Division BEFORE being used by the Contractor.

(b) Quality Control and Acceptance. Quality control and acceptance sampling and testing are carried out by the Contractor in accordance with Subsection 308.05 of the Standard Specifications. The Contractor will sample and test each 1000 cu yd (750 cu m) sublot for thickness, gradation, and compressive strength. Compressive strength is determined from cores cut from each sublot. This same core is also used for thickness determination.

The Department will take one sample from each lot (4000 cu yd / 3000 cu m) for acceptance and verification testing. Acceptance of a standard lot for gradation and thickness will be based on passing test reports for all Contractor and Department tests within the lot.

Acceptance for compressive strength is based on the average of the four Contractor sublot tests (cores) and the Department's lot test. See Subsection 308.05(d) of the Standard Specifications for additional information on acceptance and adjustments in payment.

(c) Weather Limitations, Protection and Curing. See Subsection 308.04 of the Standard Specifications regarding placement procedures, weather limitations, and protection and curing of the Cement Stabilized Crushed Stone Base Course.

308.02 METHOD OF MEASUREMENT. The quantities shown on the plans for Processing Cement Stabilized Crushed Stone Base (square yards or square meters) will be considered as final quantities, and no further measurement is required, unless the Resident Engineer and/or the Contractor note exception(s) and/or a change order is approved altering the quantity. The Materials Division laboratory design of this mixture will establish the mix proportions of aggregate and cement in pounds per square yard (kilograms per square meter). This information will be used in conjunction with the planned (or measured) square yards (square meters) to compute pay quantities. The computations are considered part of the Original Source Documents.

308.03 DOCUMENTATION. Documentation for "Processing Cement Stabilized Crushed Stone Base Course" will be based on the plan quantity with noted exceptions in square yards (square meters). Documentation for "Aggregate in Cement Stabilized Crushed Stone Base Course" and "Cement in Cement Stabilized Crushed Stone Base Course" is to be based on:

(a) Plan quantity and noted exceptions for Processing Cement Stabilized Crushed Stone Base Course.

(b) The mix proportions in pounds per square yard (kilograms per square meter) of aggregate and cement as established by the laboratory design from the Materials Division.

Noted exceptions are to be documented in the appropriate actual field measure DWR template. Documentation for cement or aggregate should contain (a) and (b) above and computation(s) of the applicable pay item:

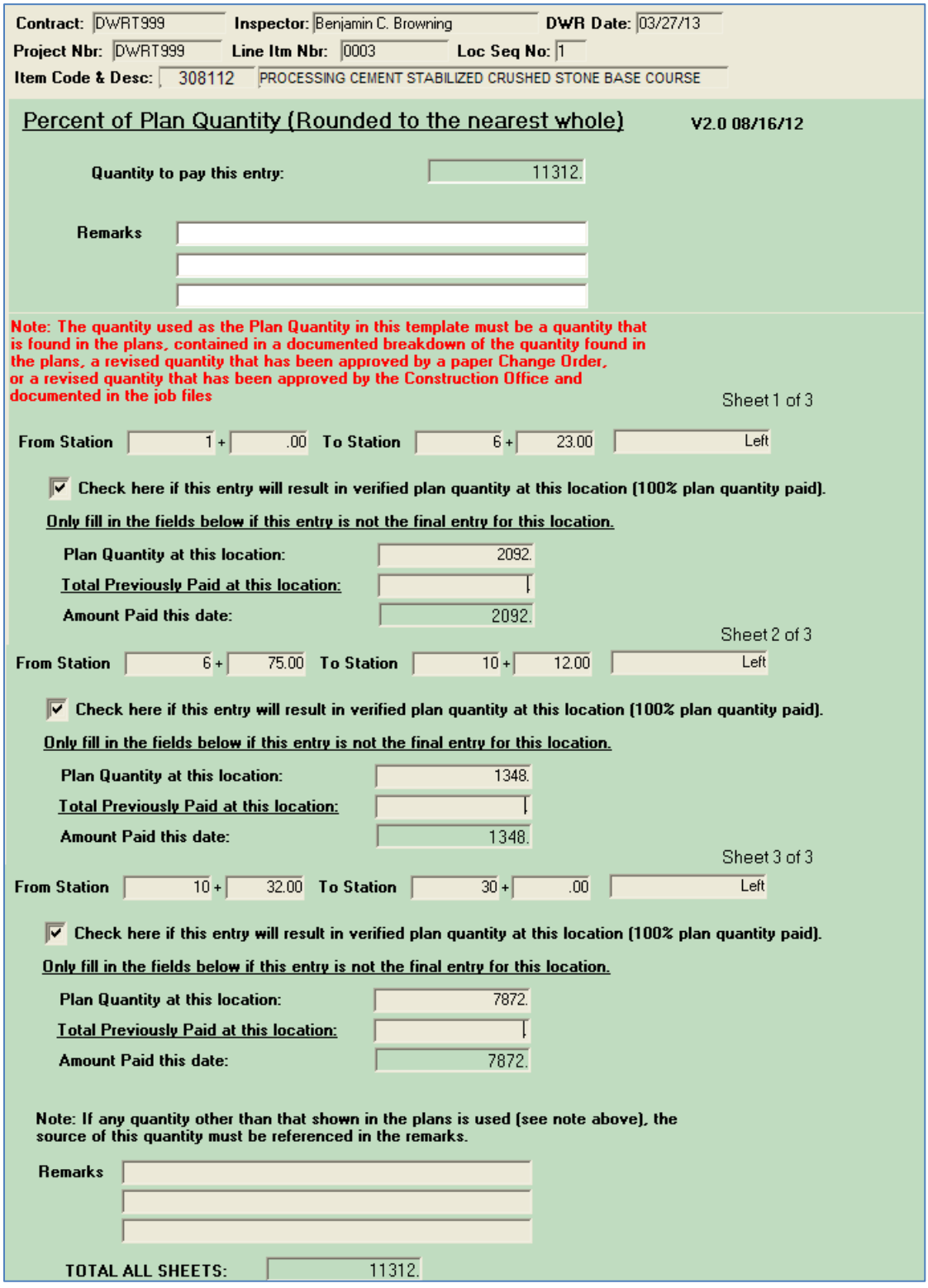
Metric

$$\frac{(\text{kg/sq m cement or aggregate}) \times (\text{sq m})}{(1000 \text{ kg/metric ton})} = \text{metric tons cement or aggregate}$$

US Standard

$$\frac{(\text{lb/sq yd cement or aggregate}) \times (\text{sq m})}{(2000 \#/\text{ton})} = \text{tons cement or aggregate}$$

Examples of properly completed DWR templates for documentation on the above items are found in *Figures 308-1a,b,& c*. Additional information on the completion of DWRs is found in *Subsection 109.02* of this Manual.


Contract: DWRT999 Inspector: Benjamin C. Browning DWR Date: 03/27/13
Project Nbr: DWRT999 Line Itm Nbr: 0003 Loc Seq No: 1
Item Code & Desc: 308112 PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE

Percent of Plan Quantity (Rounded to the nearest whole) V2.0 08/16/12

Quantity to pay this entry: 11312.

Remarks

Note: The quantity used as the Plan Quantity in this template must be a quantity that is found in the plans, contained in a documented breakdown of the quantity found in the plans, a revised quantity that has been approved by a paper Change Order, or a revised quantity that has been approved by the Construction Office and documented in the job files

Sheet 1 of 3

From Station 1 + .00 To Station 6 + 23.00 Left

Check here if this entry will result in verified plan quantity at this location (100% plan quantity paid).

Only fill in the fields below if this entry is not the final entry for this location.

Plan Quantity at this location: 2092.
Total Previously Paid at this location:
Amount Paid this date: 2092.

Sheet 2 of 3

From Station 6 + 75.00 To Station 10 + 12.00 Left

Check here if this entry will result in verified plan quantity at this location (100% plan quantity paid).

Only fill in the fields below if this entry is not the final entry for this location.

Plan Quantity at this location: 1348.
Total Previously Paid at this location:
Amount Paid this date: 1348.

Sheet 3 of 3

From Station 10 + 32.00 To Station 30 + .00 Left

Check here if this entry will result in verified plan quantity at this location (100% plan quantity paid).

Only fill in the fields below if this entry is not the final entry for this location.

Plan Quantity at this location: 7872.
Total Previously Paid at this location:
Amount Paid this date: 7872.

Note: If any quantity other than that shown in the plans is used (see note above), the source of this quantity must be referenced in the remarks.

Remarks

TOTAL ALL SHEETS: 11312.

Figure 308-1a

Processing Cement Stabilized Crushed Stone Base Course

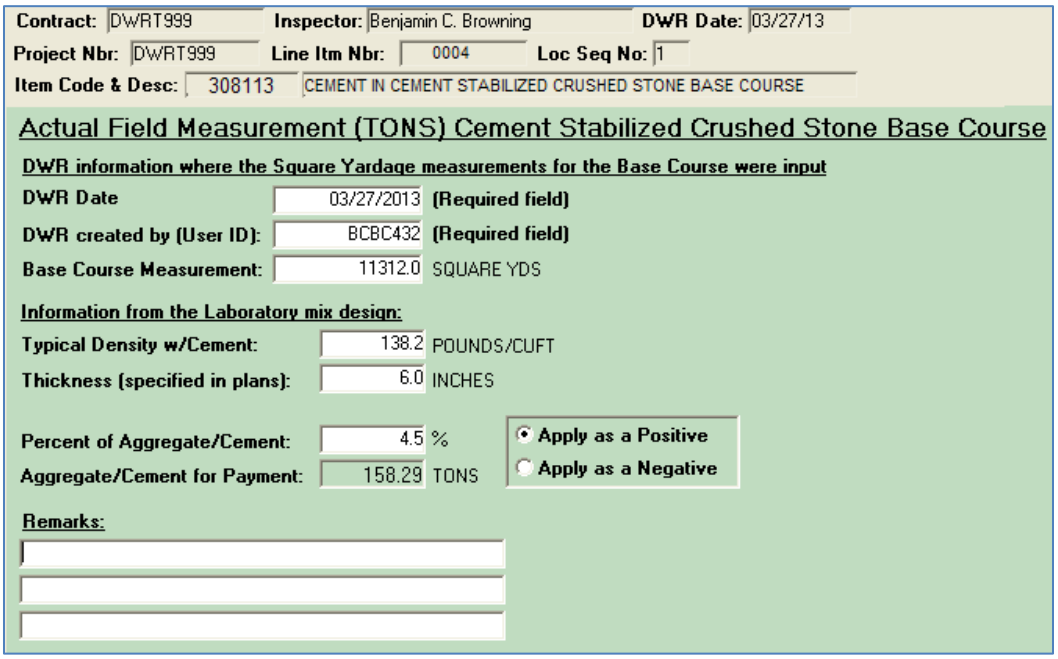


Figure 308-1b

Cement in Cement Stabilized Crushed Stone Base Course

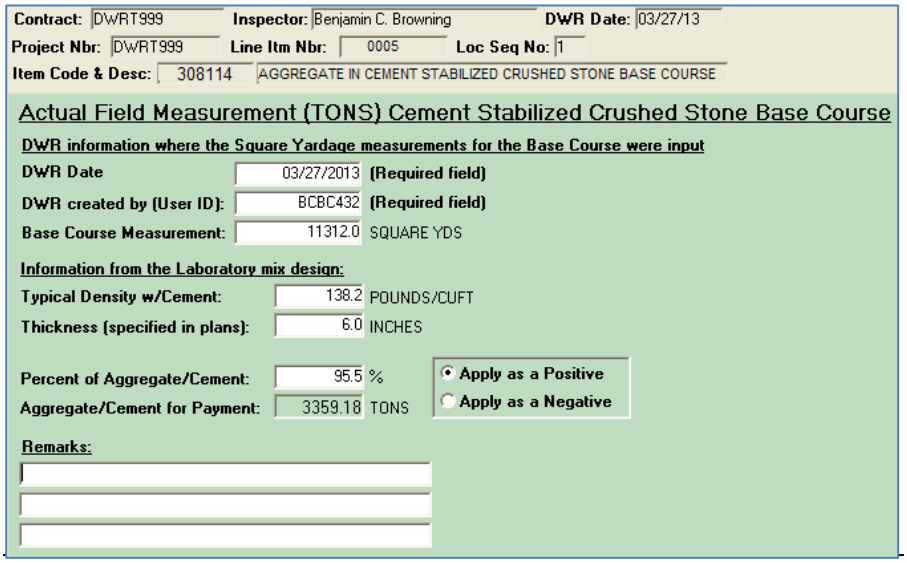


Figure 308-1c

Aggregate in Cement Stabilized Crushed Stone Base Course

SECTION 309
PORTLAND CEMENT CONCRETE BASE

309.01 GENERAL. (a) Design. This item consists of the placement of Portland Cement Concrete on a prepared surface as a base course. Concrete meeting the requirements of one of the following three classes may be used for this item:

1. Paving concrete meeting the requirements of Section 501 of the Standard Specifications,
2. Class A concrete meeting the requirements of Section 802 of the Standard Specifications,
3. Class S concrete meeting the requirements of Section 802 of the Standard Specifications.

Mix designs are prepared by the Contractor in accordance with Subsection 501.03 or 802.05 of the Standard Specifications, as applicable to the class of mix used.

(b) Quality Control and Acceptance. The Contractor will perform quality control and acceptance sampling and testing in accordance with Subsection 501.04 of the Standard Specifications. The Resident Engineer will perform acceptance/verification sampling and testing in accordance with Subsection 501.04 of the Standard Specifications and the *Manual of Field Sampling and Testing Procedures*.

NOTE: Specifications require compressive strength compliance to be based upon cylinders. Thickness compliance is to be based upon soundings of the fresh concrete. Refer to the Standard Specifications.

309.02 METHOD OF MEASUREMENT. Portland Cement Concrete Base (__ " [__mm] Uniform Thickness) will be measured by the square yard (square meter) with adjustments in accordance with Subsections 501.04 (air content and compressive strength), 501.10 (thickness), and 501.14 of the Standard Specifications.

Reinforcing Steel, when specified, will be measured and paid for in accordance with Section 502 of the Standard Specifications.

309.03 DOCUMENTATION. Documentation for "Portland Cement Concrete Base (___ mm [___"] Uniform Thickness)": shall consist of a properly completed DWR Template.

SECTION 310
OPEN GRADED PORTLAND CEMENT CONCRETE BASE COURSE

310.01 GENERAL. (a) Design. This item consists of constructing a permeable Portland cement base course on an accepted base course. No mix design is required, as the cement content and gradations are established in the Standard Specifications. Special attention should be placed on preventing deterioration of the permeability of the constructed Open Graded Portland Cement Concrete Base Course. During subsequent paving operations, no traffic or Contractor's equipment should be permitted on the open graded base other than the paver. *No haul trucks of any type are permitted on the Open Graded Portland Cement Concrete Base Course.*

(b) Quality Control and Acceptance. The Contractor will perform quality control and acceptance sampling in accordance with Subsection 310.05 of the Specifications. The Department will perform verification testing in accordance with the *Manual of Field Sampling and Testing Procedures* and Section 310 of the Standard Specifications.

(c) Base Thickness. Thickness of the placed open graded Portland cement concrete base course should be measured by the RE immediately behind the screed. Any variations in thickness greater than ±¼" (±6 mm) must be corrected before the mix has taken initial set. The paving operation should be stopped until the thickness problem is corrected and all deficient areas behind the paver are corrected.

310.02 METHOD OF MEASUREMENT. "Open Graded Portland Cement Concrete Base Course" will be measured by the Square Yard (Square Meter) in place.

310.03 DOCUMENTATION. Documentation for this item shall be a properly completed DWR template.